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$$\begin{array}{cccc}
 1, & 3, & 5, & \dots & 2r-1 \\
 2r+1, & 2r+3, & \dots & 4r-1 \\
 4r+1, & 4r+3, & \dots & 6r-1 \\
 \vdots & \vdots & & \vdots \\
 2(n-1)r+1, & \dots & 2nr-1
 \end{array}$$

The sum of the terms in the n th group is

$$\frac{r}{2}(\text{1st term} + \text{last term}) = \frac{r}{2}(4rn - 2r) = r^2(2n - 1).$$

Solved similarly by *G. B. M. ZERR*, *J. H. DRUMMOND*, and *J. SCHEFFER*.

147. Proposed by *W. J. GREENSTREET*, M. A., Editor of the *Mathematical Gazette*, Stroud, Gloucestershire, England.

Prove that $x = a^x$ has never more than two real roots, and find the condition for no real roots.

No solution of this problem has been received.

148. Proposed by *R. D. BOHANNAN*, Ph. D., Professor of Mathematics, Ohio State University, Columbus, O.

If $\frac{x}{a+\alpha} + \frac{y}{b+\beta} + \frac{z}{c+\gamma} = 1$, $\frac{x}{\alpha+\beta} + \frac{y}{b+\beta} + \frac{z}{c+\beta} = 1$, $\frac{x}{a+\gamma} + \frac{y}{b+\gamma}$
 $+ \frac{z}{c+\gamma} = 1$, show, without solving, that $x + y + z = a + \alpha + b + \beta + c + \gamma$.

No solution of this problem has been received.

149. Proposed by *JOSEPH V. COLLINS*, Ph. D., Stevens Point, Wis.

1. How many different football elevens can be sent out from a school having twenty players? In how many ways can eleven men line up?

Solution by *P. H. PHILBRICK*, C. E., Lake Charles, La.

It is possible to send out $\frac{20!}{11! \ 9!}$ elevens, or 167960 elevens.

The eleven men can line up 11! ways.

Also solved by *G. B. M. ZERR* and *C. A. LINDEMANN*.

150. Proposed by *JOSEPH V. COLLINS*, Ph. D., Stevens Point, Wis.

2. How many sets of officers (president, vice-president, treasurer, and secretary) can a society of forty persons elect? How many committees of four persons, supposing no attention is paid to positions on the committees? How many committees in which the chairman is selected?

Solution by *P. H. PHILBRICK*, C. E., Lake Charles, La., and *C. A. LINDEMAN*, Professor of Mathematics Virginia Union University, Richmond, Va.

The society can elect $\frac{40!}{36! \ 4!}$ sets of officers.

The number of committees, no attention being paid to positions on the